

Guideline for Healthcare Professionals supporting individuals back to work after Carpal Tunnel Release Surgery

Background

- Carpal Tunnel syndrome (CTS) describes compression of the median nerve at the anterior (palm side) of the wrist. The median nerve provides sensation from the thumb through to the first half of the ring finger. Compression of the nerve causes pins and needles or numbness in these digits and can cause weakness in the thumb
- Depending on the severity of symptoms, CTS may affect general day-to-day activities, and sleep (symptoms are often worse at night) [1]
- CTS can also affect the individual's ability to carry out work activities due to altered sensation and reduced pinch strength
- In most cases, the cause of CTS is unclear, however clinical risk factors include inflammatory arthritis, diabetes, or a family history of CTS [2,3]. CTS can also be associated with pregnancy, where symptoms usually resolve soon after birth [4]. Possible work-related risk factors for CTS include activities that involve repetitive wrist flexion or extension, or use of hand-held vibrating tools [5,6]



Faculty of Occupational Medicine
of the Royal College of Physicians

CTS management

There are four main management options for CTS [8]. For those with worsening or constant symptoms, difficulties with hand function, or visible wasting of the thenar muscles (the muscle pad in the palm at the base of the thumb), surgery is usually recommended in the first instance [9].

During Carpal tunnel release (CTR) surgery, a small incision is made in the base of the palm, and the ligament over the carpal tunnel is cut to relieve pressure on the median nerve. Individuals with less severe symptoms should consider the following options:

- Do nothing, which may involve monitoring the symptoms and seeking additional treatment if these worsen
- Modify activities, perform specific exercises and wear a splint at night. Usually advised to trial for 6-12 weeks before progressing to other treatment options if symptoms persist
- Corticosteroid injection: anti-inflammatory liquid is injected directly into the carpal tunnel near the median nerve

Workplace management

General occupational health principles apply to CTS management (13)

Prior to surgery, task variation and activity variation may be required, for example, taking short breaks to stretch and change posture, redesigning work methods to reduce repetitive wrist flexion or extension, or wearing gloves to cushion vibration from hand-held tools [7]

If surgery is required, it is helpful to consider return to work plans in advance [10]. If the individual has access to an occupational health service it could be useful for them to arrange a consultation before surgery

Guidance has been developed by UK hand surgeons, primary care surgeons, occupational therapists and physiotherapists, with input from CTR surgery patients [11,12]. These should be adapted for individual circumstances and be followed when considering advising on resumption of driving as well (see below)

The following timescales outline when it might be appropriate for an individual to return to different work activities after CTR surgery. These can be used to guide return to work planning, but flexibility is required for variation in individual recovery:

Desk-based activities: 4–14 days, e.g. writing or typing using a keyboard and mouse, filing or handling documents.

Exposure to dirt, dust, chemicals or fluids: 14–21 days, e.g. cleaning, kitchen work, construction, industrial roles, gardening, healthcare, animal care.

Repetitive gripping and releasing: 14–28 days, e.g. hand-sorting or picking, assembly, hairdressing, cleaning, gardening, driving for work, kitchen or hospitality work.

Unpredictable hand or wrist contact: 14–35 days, e.g. child care, primary teaching, custodial or emergency services, healthcare, animal care.

Repeated loading of the hand and wrist: 14–35 days, e.g. hammering, sawing, child care, massage, sports training, providing cardiopulmonary resuscitation, assembly.

Use of hand-held vibrating tools: 21–42 days, e.g. dental or surgical tools, drilling, construction and building work, use of pneumatic hammers or drills.

Lifting or stabilising items over 10 kg: 21–42 days, e.g. delivery, stacking shelves, stockroom management, construction, maintenance, gardening, custodial or rescue services, some healthcare roles.

Return to driving

Most people can expect to resume driving within 2 weeks of surgery [11]. Approval from a surgeon or GP is not required. The individual needs to make a personal assessment determining that they are safe to drive. This should incorporate being able to:

- Grip the steering wheel
- Tolerate pressure and friction over the wound
- Respond to hazards

There is no specific DVLA (Driver and Vehicle Licensing Agency) guidance about driving with stitches in the palm or wrist. Additional assessments may be required where driving is required for work, this should be discussed with the employer.

Additional Resources

Carpal tunnel syndrome clinical knowledge summary. NICE
<https://cks.nice.org.uk/topics/carpal-tunnel-syndrome/> (2022)

Carpal tunnel syndrome pathway. Getting It Right First Time.
https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2022/01/Hand-surgery_2022-01-03_Pathway_Adult-carpal-tunnel-syndrome.pdf (2022)

Surgery and driving. UK Government.
<https://www.gov.uk/surgery-and-driving> (2022)

Guidance development group on behalf of the Faculty of Occupational Medicine

Professor Ira Madan
Professor of Occupational Medicine
Guy's and St Thomas' NHS Trust and King's College London
Academic Dean, Faculty of Occupational Medicine

Dr Lisa Newington
Advanced Practice Hand Therapist, Guy's and St Thomas' NHS Foundation Trust

Dr Fiona Sandford, Consultant Physiotherapist- Hand therapy, Joint Hand Unit
Lead Guys and St Thomas' NHS Foundation Trust and Honorary Senior Lecturer
School of Biomedical Engineering & Imaging Sciences; School of Life Course & Population Sciences, Kings College London

Helen Wilson expert by experience

Miss Meg Birks, Consultant Orthopaedic Hand & Wrist Surgeon,
Sheffield Teaching Hospitals NHS Trust

Dr Nadia Sheikh Consultant Occupational Health Physician, Health Partners

Dr Yen H Lam GP Partner Maldon Road Surgery
GPSI in Vasectomy and Carpal Tunnel Decompression
Hand Surgery Lead for The Association of Surgeons in Primary Care

Laura Ingham, Occupational Therapy Research & Development Lead and
Clinical Lead Occupational Therapy Rheumatology Service, Swansea Bay
University Health Board.

References

1. Patel A, Deza Culbertson M, Patel A, Hashem J, Jacob J, Edelstein D, et al. The negative effects of carpal tunnel syndrome on sleep quality. *Sleep Disord.* 2014; 962746. doi:<http://dx.doi.org/10.1155/2014/962746>
2. Ibrahim I, Khan W, Goddard N, Smitham P. Carpal tunnel syndrome: a review of the recent literature. *Open Orthop J.* 2012;6: 69–76. doi:10.2174/1874325001206010069
3. Pourmemari MH, Shiri R. Diabetes as a risk factor for carpal tunnel syndrome: a systematic review and meta-analysis. *Diabet Med.* 2015/07/16. 2016;33: 10–16. doi:10.1111/dme.12855
4. Padua L, Di Pasquale A, Pazzaglia C, Liotta GA, Librante A, Mondelli M. Systematic review of pregnancy-related carpal tunnel syndrome. *Muscle and Nerve.* 2010;42: 697–702. doi:10.1002/mus.21910
5. Vihlborg P, Pettersson H, Makdoui K, Wikström S, Bryngelsson IL, Selander J, et al. Carpal Tunnel Syndrome and Hand-Arm Vibration: A Swedish National Registry Case-Control Study. *J Occup Environ Med.* 2022;64: 197–201. doi:10.1097/JOM.0000000000002451
6. Palmer KT, Harris EC, Coggon D. Carpal tunnel syndrome and its relation to occupation: A systematic literature review. *Occup Med (Chic Ill).* 2007;57: 57–66. doi:10.1093/occmed/kql125
7. Palmer KT. Carpal tunnel syndrome: The role of occupational factors. *Best Pract Res Clin Rheumatol.* 2011;25: 15–29. doi:<https://doi.org/10.1016/j.berh.2011.01.014>
8. NHS England. Making a decision about carpal tunnel syndrome. 2022 [cited 3 Jan 2023]. Available: <https://www.england.nhs.uk/publication/decision-support-tools-making-a-decision-about-a-health-condition/#carpal-tunnel-syndrome>
9. British Orthopaedic Association. Commissioning guide: treatment of carpal tunnel syndrome. 2017 [cited 3 Jan 2023]. Available: <https://www.boa.ac.uk/resources/carpal-tunnel-syndrome-guide-final--pdf.html>
10. Newington L, Brooks C, Warwick D, Adams J, Walker-Bone K. Return to work after carpal tunnel release surgery: A qualitative interview study. *BMC Musculoskelet Disord.* 2019;20: 242. doi:10.1186/s12891-019-2638-5
11. Newington L, Madan I, Sandford F. Driving, work, wound care and rehabilitation after carpal tunnel release: Consensus recommendations from a UK Delphi study. *Hand Ther.* 2022;27: 71–82. doi:10.1177/17589983221113870
12. Newington L, Ntani G, Warwick D, Adams J, Walker-Bone K. Sickness absence after carpal tunnel release: a multicentre prospective cohort study. *BMJ Open.* 2021;11: e041656. doi:10.1136/bmjopen-2020-041656
13. Faculty of Occupational Medicine, Occupational Health Principles for healthcare professionals: https://www.fom.ac.uk/document/fom-guidance_oh-principles
Faculty of Occupational Medicine April 2023